#13
TLR

PATENT APPLICATION 2/22/02

RESPONSE UNDER 37 CFR §1.116
EXPEDITED PROCEDURE
TECHNOLOGY CENTER ART UNIT 2651

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re the Application of

Tsutomu ISHII et al.

Group Art Unit: 2651

Application No.: 09/181,809

Examiner: K. Chu

Filed: October 29, 1998

Docket No.: 101327

For: APPARATUS AND METHOD TO PHOTOISOMERIZE A RECORDING LAYER WITH A POLARIZING ROTARY DEVICE (AS AMENDED)

ok to enter
KC 2/28/02

REQUEST FOR RECONSIDERATION AFTER FINAL REJECTION

Director of the U.S. Patent and Trademark Office
Washington, D.C. 20231

Sir:

In reply to the Office Action mailed October 23, 2001, the period for reply being extended by the attached Petition for Extension of Time, reconsideration of the above identified application is respectfully requested. Claims 1-55 remain pending in this application.

The Office Action rejects claims 1-10, 21, 35-39 and 55 under 35 U.S.C. §112, first paragraph, as containing subject matter which was not described in the specification in such a way as to enable one skilled in the art to make and/or use the invention. More specifically, the Office Action asserts that independent claims 1, 21, 35, 37, 39 and 55 are "single means claims" that cover every conceivable means for achieving the stated purpose. Applicants respectfully traverse the rejection.

In particular, Applicants assert that independent claims 1, 21, 35, 37, 39 and 55 are not "single means claims" as defined by MPEP 2164.08(a).

A single means claim recites a *means recitation* that "does not appear in combination with another recited element of means." See MPEP 2164.08(a). Thus, in order to determined whether a claim is a single means claim, 35 U.S.C. §112, sixth paragraph ("§112 ¶ 6"), must be applied. Applicants respectfully submit that the Office Action does not correctly apply §112 ¶ 6.

A claim limitation will be interpreted to invoke §112 ¶ 6 if the claim limitation uses the phrase "means for" or "step for". See MPEP 2181. Without the use of such phrases in the claim language, a presumption must be given that §112 ¶ 6 does not apply to that claim element. Although claim elements without express means-plus-function language may never less fall within §112 ¶ 6 if the element merely recites an underlying function without recitation of acts or structure for performing that function, §112 ¶ 6 will not be invoked if the claim limitation is described in terms of its mechanical/physical structure.

Independent claims 1, 21, 35, 37, 39 and 55 each recite a plurality of structural features that work together to change a state of photo-induced birefringence. For example, the claims recite "an optical recording medium, comprising at least one optical recording layer." Moreover, the claims further recite that the optical recording layer includes "an optical recording material having at least one of a polymer or a liquid crystal polymer." Thus, because the inventions of independent claims 1, 21, 35, 37, 39 and 55 are defined in terms of their mechanical/physical structure (i.e., "recording medium," "layer," "material," "polymer," all are commonly used names for structure) the claims cannot be interpreted as having any *means recitations*, as defined by §112 ¶ 6. The fact that the functional language is also included in the claims does not convert the above claim elements into means-plus-function limitations. It merely further defines how these elements work together in the

claimed invention. See MPEP 2173.05(g). Accordingly, because independent claims 1, 21, 35, 37, 39 and 55 cannot be interpreted as having a single means recitation, they are not rejectable as "single means claims."

Furthermore, the present claims are distinguishable from the claim in question in In re Hyatt (cited in MPEP 2164.08) because they do not even include the words "means."

Therefore, Applicants respectfully submit that the rejection of claims 1-10, 21, 35-39 and 55 under 35 U.S.C. §112, first paragraph, is improper, and should be withdrawn.

The Office Action rejects claims 1-5, 10-15, 20-22, 24-26, 28-31, 33, 34, and 43-55 under 35 U.S.C. §102(b) over Leube (U.S. Patent No. 5,251,197); and claims 6-9, 16-19, 23, 27, 32 and 35-42 under 35 U.S.C. §103(a) over Leube in view of Tsujioka (U.S. Patent No. 5,316,900) and further in view of Chen (U.S. Patent No. 5,488,597). Applicants respectfully traverse the rejections.

Neither Leube, Tsujioka nor Chen, alone or in combination, disclose or suggest an optical recording medium having at least one optical recording layer that includes an optical recording material having at least one of a polymer or a liquid crystal polymer that changes a state of photo-induced birefringence in response to a recording light that is externally controlled from the optical recording medium to rotate a polarization angle of the recording light, as recited in independent claim 1, and as similarly recited in independent claims 11, 21, 22, 26, 35, 37 and 39.

Moreover, neither Leube, Tsujioka nor Chen, alone or in combination, disclose or suggest an optical reproducing method including at least radiating a reproducing light on an optical recording medium in which an azimuth of an optical element that acts substantially as a half-wave plate is multilevel recorded in response to a polarization angle of a recording light that is externally controlled from the optical recording medium to rotate the polarization

angle of the recording light, as recited in independent claim 40, and as similarly recited in independent claims 43, 46 and 49.

Furthermore, neither Leube, Tsujioka nor Chen, alone or in combination, disclose or suggest an optical recording and reproducing apparatus having at least a polarization rotary device that rotates a polarization angle of a recording light, a focusing optical system that irradiates an optical recording medium with the recording light, a reproducing light optical system that irradiates the optical recording medium with reproducing light, and an analyzing unit that detects a polarization angle of reproducing light acted on by the optical recording medium, as recited in independent claim 52, and as similarly recited in independent claims 53-55.

Contrary to the assertion in the Office Action that Leube discloses that a recording light is externally controlled to rotate a polarization angle of the recording light, Leube instead discloses that after birefringence was induced in a film 12 by irradiating the film 12 with light from an argon laser 14 through a shutter 24, the laser 14 was rotated 90° degrees so that the incident light beam was linearly polarized in the direction indicated at reference number 30. See Fig. 1, and column 8, lines 15-68. Rotation of the linearly polarized light beam could likewise be accomplished by using a half-wave plate or similar device if so desired. However, when irradiated with light from the same laser whose polarization had been rotated 90° degrees, the induced birefringence along the direction indicated by arrow 22 was erased.

Tsujioka discloses in Fig. 4 that the polarizer 7 removes random-polarized spontaneous emission components from the light beam produced from the semiconductor laser 5. See column 9, lines 60-64. Accordingly, the recording light is not controlled to rotate a polarization angle of the recording light.

Chen discloses that a polarizer 18 establishes an initial polarized condition for the light beam, and is not a polarization rotary device that rotates the polarization angle of a recording light. However, the polarizer 18 in Chen polarizes the light beam 16 so that the control layer 14 can additionally polarize the light beam 16 and direct the light beam 16 to specific recording layer 12 that is to be subject to interaction with a light beam 16. Accordingly, the light beam is not controlled to rotate a polarization angle of the light beam.

Accordingly, because Leube fails to disclose each and every claimed feature, and because Tsujioka and Chen fail to provide the deficiencies in Leube, Applicants submit that claims 1-55 define patentable subject matter. Accordingly, Applicants respectfully request that the rejections under 35 U.S.C. §102(b) and 35 U.S.C. §103(a) be withdrawn.

In view of the foregoing, Applicants submit that this application is in condition for allowance. Favorable reconsideration and prompt allowance of claims 1-55 are earnestly solicited.

Should the Examiner believe that anything further is desirable in order to place this application in even better condition for allowance, the Examiner is invited to contact Applicants' attorney at the telephone number listed below.

Respectfully submitted,

James A. Oliff
Registration No. 27,075

Richard S. Elias
Registration No. 48,806

JAO:RSE/dlh

Date: **February 12, 2002**

OLIFF & BERRIDGE, PLC
P.O. Box 19928
Alexandria, Virginia 22320
Telephone: (703) 836-6400

DEPOSIT ACCOUNT USE AUTHORIZATION
Please grant any extension necessary for entry;
Charge any fee due to our Deposit Account No. 15-0461